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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,519	09/01/2006	Sakae Okazaki	450100-05491	1680

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EXAMINER	
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ART UNIT	PAPER NUMBER
4112	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,519	OKAZAKI, SAKAE	
	Examiner	Art Unit	
	Dwight Alex C. Tejano	4112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01 Sept 2006, 04 Sept 2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." [The New IEEE Standard Dictionary of Electrical and Electronics Terms 308, 5th ed. 1993]) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.
>
> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).
>
> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the

computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim 6 is rejected under 35 U. S. C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 6 defines a signal processing program embodying functional descriptive material. However, the claim does not define a computer readable medium or memory and are thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" - Guidelines Annex. IV.)

That is, the scope of the presently claimed signal processing program can range from paper on which the program is written to a program simply contemplated and memorized by a person.

Under normal circumstances, the Examiner would suggest that the applicant change the claim language of claim 6 from “a program configured…” to “a computer-readable medium encoded with a computer program configured…” However, in this case, given that claim 5 already meets this particular statutory limitation, the Examiner recommends the cancellation of the claim, as a modification similar to the above would instigate a double patenting objection under 37 CFR 1.75 as being a substantial duplicate of claim 5.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 - 6 rejected under 35 U.S.C. 102(b) as being anticipated by Ohkawara, et al. (US 6,683,652.)

Ohkawara, et al. (hereafter referenced as "Ohkawara") discloses an interchangeable lens video camera system containing an autofocusing (AF) signal processing circuit.

Regarding **claim 1,** Ohkawara discloses an image pickup section (lens assembly, 127) that is configured to pick up an image of a subject in sychronization with a vertical synchronization signal (hereafter referenced as "Vsync.") While Ohkawara does not specifically teach that the image pickup cycle as being one-Nth (N being an integer) of the Vsync cycle, Ohkawara does disclose the autofocusing mechanism as being in "synchronism with the vertical sync period" [74.] Furthermore, Ohkawara discloses that the vertical sync frequency is, for example, 60 Hz [22.] Given that the period or cycle of a signal is commonly known as 1/frequency, the claimed image pickup section is considered disclosed by Ohkawara.

Furthermore, Ohkawara discloses a calculation section configured to calculate a focus evaluation value for autofocusing based on an image pickup signal. Ohkawara discloses an AF signal processing circuit (113) that determines "a high-frequency component whose signal level changes in accordance with the focus state" [34.] That component becomes the AF evaluation value (S6, Fig. 2) that is used in the rest of the circuit.

Additionally, Ohkawara discloses a changing section configured to change the distance between the focusing lens and the image pickup sensor. In Ohkwara, this section comprises the motor driver (126) and the motor (125) that adjusts the focus lens (105) in relation to the image sensor (106, 107, 108.)

While Ohkawara does not specifically disclose a synthesis section configured to synthesize a plurality of image pickup signals, Ohkawara discloses an adder (212) to generate a luminance signal (S5) by adding together the separate R, G, and B signals received by the image sensing device [33.] This performs the same function as the "synthesis section" disclosed by the present application and is, therefore, considered disclosed by Ohkawara.

In the exposure control function, Ohkawara discloses that, based on the weighted detection data, the data of the overall light reading area is combined ("synthesized") and averaged with center-weighted light to determine proper exposure settings. In this case, Ohkawara also discloses a function that meets the limitation of a synthesis section configured to synthesize a plurality of image pickup signals.

Moreover, Ohkawara discloses the synchronization of the cycle of the image vertical signal and the cycle in which the focus is calculated ("AF evaluation value is normally generated in synchronism with the vertical signal period," [74.]) Additionally, Ohkawara discloses synchronization as integer N times the cycle of focus evaluation ("any period can be used as long as the period is an integral multiple of the period of the video signal," [85.])

Finally, while Ohkawara does not specifically disclose the claimed relationship of integers A and B as present in claim 1 in the specification, Ohkawara does disclose relationship through example, as shown in Figs. 8B and 8C. Figs. 8B and 8C show the synchronized relationship of the distance changing between the focusing lens and the sensor ("changing section.") The horizontal axis represents integer values of the Vsync period, and the vertical axis represents the position ("distance") of the focus lens. The lens distance changes at integer multiples of the Vsync; that is, at 3V/2V in 8B/8C, respectively. In both of these cases, the integer cycle of the image vertical synchronizing signal and the integer cycle in which the distance is changed are synchronized with each other. Furthermore, the relationship of B > A is met (i.e., 3 > 1 and 2 > 1.) Additionally, Ohkawara discloses, as also mentioned above, that "any period can be used as long as the period is an integral multiple" with regards to Fig. 8B, which further draws that B must always be greater than A, as a multiple cannot be lesser than that which is being multiplied when counting with positive, real numbers (as cycles and periods are.) Given the present argument, the claimed "A (integer) times the cycle of the image vertical synchronizing signal and B (integer) times the cycle in which

the distance is changed by said changing section are synchronized with each other where integer A and integer B satisfy B > A" is considered disclosed by Ohkawara.

Regarding **claim 2,** Ohkawara discloses everything as claimed in claim 1, as discussed above. Further, Ohkawara discloses the calculation of the focus evaluation value based on high-frequency components of the luminance signal [34.]

Regarding **claim 3,** Ohkawara teaches everything as presented in claim 1, as explained above. Furthermore, Ohkawara discloses the synthesizing of image signals determined in advance from the plural image pickup signals picked up by the image pickup section. Specifically, Ohkawara discloses only the signals in a "specific image area (area in a distance measurement frame)" as being synthesized [34.]

Claims 4, 5, and 6 are inherent variations (method, medium, and program) of the apparatus of claim 1. They are thus interpreted and rejected for the same reasons as presented in claim 1.

Citation of Pertinent Art

The prior art made of record is considered pertinent to the applicant's disclosure, but is not relied upon as a reference for the preceding sections:

- Kobayashi (US 2002/0012063) discloses an auto focus apparatus using peak detection.
- Suda, et al. (US 2002/0109784) discloses an interchangeable lens video camera system utilizing an AF signal circuit.
- Hirasawa, et al. (US 6,850,280) discloses an auto focus device with distance measuring.
- Hattori, et al. (US 6,937,277) discloses an image input apparatus that utilizes vertical synchronization as a clock.
- Iijima, et al. (US 6,271,883) discloses an autofocusing apparatus for a video camera that utilizes peak detection at an integer multiple of the vertical synchronization signal.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwight Alex C. Tejano whose telephone number is (571) 270-7200. The examiner can normally be reached on Monday through Friday 9:30-6:00 with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jefferey F. Harold can be reached on (571) 272-7519. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dwight Alex C Tejano
Examiner
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